

Session #26 at the Open Science Conference of the Earth System Science Partnership (ESSP),
9-12 November 2006, Beijing

Global Environmental Change, Natural Disasters, and their Implications for Human Security in Coastal Urban Areas

Convenors : K. O'Brien, Pacyna, R. Sanchez Rodriguez

Issues: Climate change, coastal zone, human security, lessons learned, natural disaster, urbanization, vulnerability.

Storm surges – the case of Hamburg, Germany

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Along the coast of the North Sea, storm surges present the major geophysical risk. A long history of disaster has engraved the severity of this danger deeply into the cultural texture of the local population.

While the situation has not much changed in rural regions, the situation has changed significantly in Hamburg, which is connected to the North Sea by the Elbe estuary. Here, the risk, and the vulnerability of the population has changed quite a bit.

The geophysical risk has changed by more efficient coastal defence measures as well as a repeated deepening of the shipping channel. Climate change has played a very minor role so far, but may become more important after 2050, or so.

The vulnerability of the population has increased as well. The effective coastal defence has created a perception of absolute security, even if scientists have demonstrated that a slight modification of past storms (in terms of path, and speed) could cause dangerously high storm surges. The vulnerability has also increased because of the influx of people not originating from the coastal zone, who simply are not aware of the severity of the risk.

We discuss this multi-faceted situation as a case study, which features geophysical risks, globally and regionally induced changes related to globalisation, changing populations (urbanization) and alarmist claims on climate change.

A brief comparison of the public perception of the Katrina disaster is included in the discussion.